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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,343	01/17/2002	Stephen D. Fuerstenau	06618/762001/CIT 3374	9837

20985 7590 05/22/2003

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EXAMINER

LEYBOURNE, JAMES J

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,343

Applicant(s)

FUERSTENAU, STEPHEN D.

Examiner

James J. Leybourne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 and 21 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 8 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7, 9-15 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Neukermans et al. (USPN 4010366). Neukermans et al. disclose a method for the measurement of the mass and/or charge of a charged particle. The method involves injecting the particle into a sampling device made up of a tube comprising a Faraday cage with a region of a grounded conductive material on either end of it. The particle flows through the tube in a stream of gas and as it passes through the Faraday cage it induces a charge on the cage wall. By measuring the

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magnitude of the induced charge or its duration in the cage, the magnitude of the charge on the particle or the mass of the particle can be determined. (abstract).

Regarding claims 1, 3, 4-6, 10, 12, 14, 15 and 17 the apparatus has an airflow producing part (vacuum pump indicated in figure 3), a particle constraining part (capillary tube formed by sections 11, 13, 15 and 17 in Fig. 3) and a detector (Faraday cage shown in Fig. 2).

Regarding claims 2, 7, 11 and 18, the signal waveform (Fig. 3) from the Faraday cage is processed by the electronics (Fig. 2). The description and method of operation is given in column 1, lines 46-68 and column 2, lines 1-3.

Regarding claims 9, 13 and 19, the capillary tube is 0.006 inch (0.15 mm) as described in column 4, lines 60-65.

Allowable Subject Matter

4. Claims 16 and 21 are allowed.
5. Claims 8, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is an examiner's statement of reasons for allowance:

The method of passing an air stream containing charged particles through a cylindrical Faraday cage and processing the resulting signal to determine the particles size and charge is known. However, in the prior art the Faraday cage consisted of a

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conducting tube that formed part of the air stream tube without a dielectric isolating the charged particles from the Faraday cage. The present invention utilizes a dielectric tube to constrain the flow of gas with a Faraday cage disposed radially outside the dielectric tube. This prevents charged particles from colliding with the conducting Faraday cage and constrains them to remain in the air stream rather

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

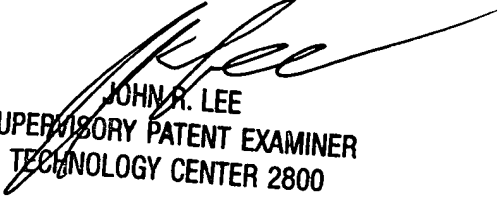
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Leybourne whose telephone number is (703) 305-7067. The examiner can normally be reached on M-F 9:00 - 6:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on (703) 308-4119. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9317 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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JJL

May 13, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800